

REMARKS

In accordance with the foregoing, claim 27 is cancelled and each of claims 28, 29, 37, 40 and 41 has been amended to independent form, including all limitations of the cancelled claim 27.

Further, each of claims 34, 35 and 41 is amended to depend from amended claim 29, instead of claim 27.

No new matter is presented and, accordingly, approval and entry of the amended claims are respectfully requested.

STATUS OF CLAIMS

Claims 1-10, 15-26, 42 and 44 are allowed.

Claims 11, 27 and 35 are rejected.

Claims 12-14, 28-34, 36-41 and 43 are objected to.

With respect to the objected to claims, claims 12-14 have now been amended to independent form, as have the objected to claims 28 and 36, and, accordingly, the forgoing claims as now pending are submitted to be allowable.

Claim 43 is objected to but claim 43 depends from claim 22 which is an allowed claim and accordingly, claim 43 should be deemed allowable as well. Applicants have noted this discrepancy in prior Office Actions and it is requested that it be corrected.

Rejected claim 27 is cancelled and rejected claim 35 is now amended to depend from claim 29, and, as noted above, should now be allowable.

Accordingly, only independent claim 11 stands as rejected, all other pending claims now being rendered allowable or already allowed.

ITEM 10: REJECTION OF CLAIM 11 FOR OBVIOUSNESS UNDER 35 U.S.C. 103 (a) OVER TULPUL IN VIEW OF BRAUNS

Item 11, setting forth grounds for the rejection, provides an extensive discussion as to Tulpule disclosing a synchroniser.

Applicants acknowledge that Tulpule discloses a synchroniser having N rising-edge latches 32 and N falling-edge latches 34. However, the rising-edge latches and falling-edge latches in Tulpule are neither connected in the manner specified by claim 11, nor are they

triggered in the manner specified by claim 11.

Addressing first the difference in connection arrangement, claim 11 recites that all of the rising-edge latches and all of the falling-edge latches are connected to receive the same stream of serial data. Claim 11 first recites the stream of serial data in the preamble and then requires that each of the rising-edge latches and each of the falling-edge latches is connected for receiving "said" stream of serial data, i.e. all of the latches receive the same stream of serial data. This is not disclosed in Tulpule. As explained in Item 6 on pages 15 and 16 of the amendment filed on 21 February 2006, Tulpule discloses a synchroniser 10 (Figure 2). The synchroniser 10 has N inputs. N incoming sync drive signals are received at respective N inputs. Each different rising-edge latch 32 receives a different one of the sync drive signals, and each different falling-edge latch 34 receives a different one of the sync drive signals. This is a difference fundamental clearly establishing patentable distinction of claim 11 over Tulpule, because in Tulpule the rising-edge latches and falling-edge latches are used to detect a timing relationship between N different sync drive signals - - not to take samples of a single stream of serial data at defined points in a series of cycles as is recited in claim 11.

Addressing next the difference in triggering of the latches, each rising-edge latch 32 in Tulpule is triggered when a rising edge occurs in the sync drive signal applied thereto. This is being seen in Figure 6 of Tulpule, which shows that the sync drive signal (line 36) is applied to the clock input of the latch. The signal (line 40) applied to the data input of the latch is an enable signal. Thus, when the enable signal is active, the latch is triggered by a rising edge of the sync drive signal. All the rising-edge latches receive the same enable signal and are enabled by it for the same window of time. The timing of the rising edge on each sync signal is uncertain (because the sync signals are received from external circuitry) and is independent of any cycles of the synchroniser, for example, cycles of the clock signal on line 30. Thus, it is not the case in Tulpule that each of the N rising-edge latches 32 is triggered at the rising edge of a cycle of the claimed circuitry, as required by claim 11. Similarly, from Figure 6 it is clear that each falling-edge latch 34 is triggered by a falling edge in the sync drive signal (line 38). Again, the timing of that falling edge in Tulpule is uncertain and is independent of any cycles of the synchroniser. Thus, it is not the case in Tulpule that each of the N falling-edge latches is triggered at the falling edge of a cycle of the circuitry, as required by claim 11.

Still further, claim 11 requires each of the N rising-edge latches to be triggered at the rising edge of a different one of the N cycles, and also requires each of the N falling edge latches to be triggered at the falling edge of a different one of the N cycles. This does not occur

in Tulpule because there is no chance that all the edges in all N different incoming sync drive signals will be aligned with all the edges in N successive cycles of the synchroniser. Again, this difference is absolutely fundamental and clearly establishes the patentable distinction of claim 11 over Tulpule. The purpose of the triggering of the latches 32 and 34 in Tulpule is to detect edges in the different incoming sync drive signals, whenever those edges occur - - not to sample a single stream of serial data at defined times in N cycles. The latches in the present invention do not detect edges in the serial data stream. Instead, they sample the data at the rising and falling edges in the N cycles. It is true (see Figure 4) that the input latches 26 in Tulpule sample the N incoming sync signals (lines 24) on rising and falling edges of the clock signal (line 30) - - but, again, the input latches do not sample the same stream of serial data (they sample N different incoming sync drive signals). nor is each input latch triggered on an edge of a different one of N clock cycles, as recited in claim 11.

Furthermore, the Examiner has conceded in paragraph 12 of the Office Action that Tulpule does not disclose a sample processing circuit which processes the samples to recover a clock signal from the data stream. The circuit arrangement in Tulpule employs the N rising-edge latches and N falling-edge latches to detect edges on N different incoming sync signals - - not to produce samples of a single stream of serial data. Thus, it is submitted to be impossible to identify any motivation for combining Tulpule with Brauns, from either reference, and thus, it is hard to see how Brauns could sensibly be applied to Tulpule. The entire connection and triggering arrangements of the N rising-edge latches and falling-edge latches would need to be modified, which is submitted to be far-fetched. There is no teaching in Brauns that would enable such modifications of those arrangements.

Accordingly, whatever the merit of the Examiner's position in paragraph 2 of the Office Action regarding the patentable weight to be placed on preamble features, claim 11 is distinguished inventively from Tulpule and Brauns by the main part of the claim which follows "said clock recovery circuitry comprising". Moreover, it is clear from the foregoing that the preamble of claim 11 serves to "further define the structure" of the claimed device and supports patentability of claim 11. MPEP 2111.02 Part I.

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

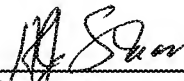
Respectfully submitted,

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